PRODUCT: 48 fiber count- Single mode fiber Cables – Loose Tube

## 1. General

This construction is for 48 fiber count – single mode fiber cables. The centrally placed strength member is a fiber reinforced plastic rod. The cable is of stranded loose tube construction, with loose tube each containing 12 fibers. The loose tubes are filled with thixotropic jelly to prevent moisture ingress. Water proofing of core is done by water-blocking tape. The sheath of HDPE (black) is extruded over the cable core for better impact & crush resistance.

## 2.0 Cable Structure.

## 2.1 Fiber Specifications.

a) Single Mode Fiber meets ITU-T Recommendations G-852

**ITEM VALUE**
Type of Fiber Single Mode, Step Index,
Average Attenuation- Cable 1310 nm 1550nm < 0.38dB/Km <0.25dB/Km
Maximum Attenuation-Cable 1310nm 1550nm < 0.40dB/Km < 0.30dB/Km
Cut Off wavelength Fiber 1150-1320nm CABLED < 1260
Mode Field Diameter @ 1310nm 9.3 $\pm$ 0.5mm
Mode Field Diameter @ 1550nm 10.5 $\pm$ 1.0mm
Cladding Diameter 125.0 $\pm$ 1.0mm
Cladding Non-Circularity < 1.0%
Coating Diameter 245 $\pm$ 10mm
Zero Dispersion Wavelength 1304 – 1324nm
Zero Dispersion Slope < 0.092ps/(nm2Km)
1285-1330nm Chromatic Dispersion < 3.5ps/(nm. Km)
1550nm Chromatic Dispersion < 18ps/ (nm. Km)
Bend Test (60mm Mandrel) < 0.05dB/Km
Proof Test Strain Level 1% Strain

## 2.2 Cable Construction:

**ITEM CONSTRUCTION**
Number of Fibers: 48
Strength Member Material Fiber Reinforced Plastic
Diameter 3.5mm
Loose Tubes Material PBTP
Filling Compound Thixotropic Jelly
Stranding S-Z stranding over central strength member
Water Prevention 1. Water Blocking Tape
Outer Sheathing HDPE -1.5
Mm thick (nominal)
Cable Outer Diameter 11.8mm (nominal)
Cable Weight per Km 135 Kgs (nominal)

Ribbon Cord – In buyers option

2.3 Fiber Identification

Fiber will be individually colored for easy identification in each loose tube. Loose tubes can be identified using Maker & tracer method and for that Orange and Blue marker reference will be provided.

## 3. Mechanical Characteristics of cable

**CHARACTERISTICS SPECIFICATION**

Tensile Strength 2500 N (Installation)
1500N (Operation)
Minimum Bend Radius 20 D
Maximum Compressive Stress 3000 N as per EN 187000 method 504 max. variation
In Attn @ 1310nm – 0.1dB
Operating Temperature Range – Operation -15 ºC to + 50 ºC
Storage – 40 ºC to + 70 ºC

## 4. Cable Identification

The outer sheath of the cable shall be embossed with white foil with a sequential length marking in 1m $\pm$ 0.1%. Following are the standard marking.

SM for Single mode with fiber count
Telephone symbol and LASER Symbol
Sequential Length Marking in Meters

In case of printing error, printing will be redone with yellow marking tape and it will supercede the printing done in white. As per Bell core specification GR-20

## 5. Packaging

Robust Wooden Drum loaded and shipped in 40-ft

## 6. Lengths

95% of the total quantity with 1.8 - 6.6 Km lengths with an average of 4 Km.
5% of the total quantity with 1 – 1.8 Km lengths

## 7. Tolerance

+/- 0.5% (length difference between printed and actual length)

## 8. Warranty

Producer warrants the product supplied for a period of 18-months from date of dispatch or 12 months from the date of installation in service, whichever is earlier for all manufacturing defects.